

Establishing a transdisciplinary graduate program in functional foods, bioactive food components, and human health

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The complex scientific challenges related to diet and health require a transdisciplinary approach, one involving teamwork and an integrated understanding of many disciplines. This 4-year, \$1,000,000 training grant, co-funded by USDA's Bioactive Food Components for Optimal Health and the Improving Food Quality and Value programs, brings graduate students from eight universities across North Carolina to the North Carolina Research Campus (NCRC), in Kannapolis, NC, for two consecutive summers of scientific and professional training. Competitively selected "Kannapolis Scholars" train in chemistry, molecular biology, genomics, and physiology in world-class facilities, and receive 15-month (\$37,300) fellowships. This program not only trains individual graduate students, but brings them together in a community of practice, and connects their mentors. To encourage a transdisciplinary approach, students' graduate committees include one NCRC faculty member, and one from outside the student's "home" university. A total of 20 graduate students (first year Masters and second year Doctorate) will be selected based on GPA and GRE scores, recommendation letters, and statements of interest in bioactive food components. Students will be recruited in three cohorts. The first (n=6), second (n=7), and third (n=7) cohorts will begin training in the summers of 2010, 2011, and 2012, respectively. The third cohort will complete summer training in 2013. Summer programs intentionally expose students to scientific disciplines outside their own study area. Students also interact with food industry professionals on the NCRC and participate in team-building and Wiki-based collaborative projects. When they return to their home universities for fall semesters, the program will function similarly to an online course, using the Moodle learning management system, to maintain contact among mentors and students. This program will be evaluated based on student self-assessment, on Moodle analytics data, on the quality of collaborative projects (eg., published reviews) and on student's success at gaining future employment.